

## ABSTRACT

A waveguide type optical device performs such monitoring as detection of a relative position of an insert plate to a groove. The waveguide type optical device comprises a groove disposed at an intersection position of a first optical waveguide and a second optical waveguide; an insert plate disposed to be insertable into the groove; means for applying a static magnetic field such that a vector product of a velocity vector (A) of the insert plate and its magnetic field vector (B) is nonzero; a cantilever that has electrical wiring including therein a wiring part lying in a direction perpendicular to both the velocity vector and the magnetic field vector and that supports the insert plate; and means for detecting a relative position of the insert plate to the groove by detecting a current induced in the electrical wiring.